Manitoba Agriculture

FARM PLANNING GUIDE
1988 CROP ESTIMATES

Information Update

DATE: January, 1988

The projected crop costs enclosed in these two budgets have been prepared to assist you in developing your own production costs. The budgets assume continuous cropping.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for a farm manager to do detailed calculations if he is to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit required to finance the inputs. The importance of good financial management can be emphasized by noting that a 400 hectare (1000 acre) farm requires somewhere in the vicinity of $80,000 for cash inputs alone.

The following budgets are estimates of the cost of producing several different crops in 1988. General departmental recommendations are assumed in using fertilizers and chemical inputs. The figures provide an economic evaluation of the crops and estimate the yields required to cover all costs plus give a return to labor, management and investment. To estimate a cash flow budget the actual payments on principal and interest may be substituted for the fixed costs. As well, an estimate has to be made of family living costs, funds required for capital purchases and a cost analysis of livestock enterprises on the farm especially if your farm is not a straight grain farm.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production for various crops. On each farm, costs and yields differ due to soil type, climatic conditions, and agronomic practices.

88-02598/

CROP PRODUCTION COSTS 1988

	Wheat	Barley	Canola	Flax	Rye
	$	$	$	$	$
OPERATING COSTS:					
1) Seed & Treatment	13.44	10.53	14.10	13.95	7.90
2) Fertilizer	51.55	51.55	53.71	26.80	43.30
3) Chemicals	43.24	38.30	24.71	35.83	6.18
4) Fuel	22.24	22.24	22.24	22.24	22.24
5) Machinery Operating Costs	17.30	17.30	17.30	17.30	17.30
6) Insurance	14.48	14.65	25.58	16.68	13.84
7) Other Costs	14.83	14.83	14.83	14.83	14.83
8) Land Taxes	16.06	16.06	16.06	16.06	16.06
9) Drying Costs	--	--	--	--	--
10) Interest on Operating	11.59	11.13	11.31	9.82	8.50
TOTAL OPERATING COSTS	204.73	196.59	199.84	173.51	150.15
FIXED COSTS:					
11) Land Investment Costs	70.77	70.77	70.77	70.77	70.77
12) Machinery Depreciation	24.71	24.71	24.71	24.71	24.71
13) Machinery Investment Cost	19.77	19.77	19.77	19.77	19.77
14) Storage Costs	7.04	7.04	7.04	7.04	7.04
15) Labor and Management	39.54	39.54	39.54	39.54	39.54
TOTAL FIXED COSTS	161.83	161.83	161.83	161.83	161.83
TOTAL OPERATING & FIXED COSTS	366.56	358.42	361.67	335.34	311.98

BREAKEVEN ANALYSIS

Price/Unit	$97.37/t	$55.12/t	$231.49/t	$187.00/t	$68.89/t
Breakeven Yield for Operating Costs	2.103 t	3.567 t	863 kg	928 kg	2.180 t
Breakeven Yield for Total Costs	3.765 t	6.503 t	1.562 t	1.793 t	4.529 t

GUIDELINES (DOLLARS PER HECTARE)

Corn $	Sunflowers $	Peas $	Lentils $	Buckwheat $	Navy Beans $	My Farm
42.65	30.87	55.44	36.85	19.98	49.50	_____
79.58	57.16	35.22	35.22	54.41	48.82	_____
54.36	24.71	29.65	39.54	24.71	70.42	_____
24.71	23.47	23.47	22.24	22.24	24.71	_____
22.24	19.77	18.53	18.53	17.30	21.00	_____
21.99	15.17	21.37	28.79	30.49	31.13	_____
16.06	16.06	16.06	14.83	14.83	16.06	
21.00	16.06	21.00	16.06	16.06	21.00	_____
49.42	14.83	--	--	--	--	_____
19.92	13.09	13.24	12.72	12.00	16.96	_____
351.93	231.19	233.98	224.78	212.02	299.60	_____
103.98	70.77	103.98	70.77	70.77	103.98	_____
32.12	27.18	25.95	25.95	24.71	29.65	_____
25.70	21.75	20.76	20.76	19.77	23.72	_____
14.08	7.04	7.04	7.04	7.04	7.04	_____
39.54	39.54	39.54	39.54	39.54	39.54	_____
215.42	166.28	197.27	164.06	161.83	203.93	_____
567.35	397.47	431.25	388.84	373.85	505.53	_____

PER HECTARE YIELDS

$112.20/t	$209.44/t	$183.72/t	$308.65/t	$218.17/t	$440.93/t	_____
3.137 t	1.104 t	1.274 t	728 kg	972 kg	679 kg	_____
5.057 t	1.898 t	2.347 t	1.260 t	1.714 t	1.142 t	_____

CROP PRODUCTION COSTS 1988

	Wheat	Barley	Canola	Flax	Rye
	$	$	$	$	$
OPERATING COSTS:					
1) Seed & Treatment	5.31	4.13	6.00	5.60	3.13
2) Fertilizer	20.85	20.85	21.65	10.80	17.60
3) Chemicals	17.50	15.50	10.00	14.50	2.50
4) Fuel	9.00	9.00	9.00	9.00	9.00
5) Machinery Operating Costs	7.00	7.00	7.00	7.00	7.00
6) Insurance	5.86	5.93	10.35	6.75	5.60
7) Other Costs	6.00	6.00	6.00	6.00	6.00
8) Land Taxes	6.50	6.50	6.50	6.50	6.50
9) Drying Costs	--	--	--	--	--
10) Interest on Operating	4.68	4.49	4.59	3.97	3.44
TOTAL OPERATING COSTS	82.70	79.40	81.09	70.12	60.77
FIXED COSTS:					
11) Land Investment Costs	28.64	28.64	28.64	28.64	28.64
12) Machinery Depreciation	10.00	10.00	10.00	10.00	10.00
13) Machinery Investment	8.00	8.00	8.00	8.00	8.00
14) Storage Costs	2.85	2.85	2.85	2.85	2.85
15) Labor and Management	16.00	16.00	16.00	16.00	16.00
TOTAL FIXED	65.49	65.49	65.49	65.49	65.49
TOTAL COST	148.19	144.89	146.58	135.61	126.26

BREAKEVEN ANALYSIS

Price/Unit	$2.65/bu	$1.20/bu	$5.25/bu	$4.75/bu	$1.75/bu
(or per Per Tonne Equivalent)	$97.37/t	$55.12/t	$231.49/t	$187.00/t	$68.89/t
Breakeven Yield for Operating Costs	31.2 bu	66.2 bu	15.4 bu	14.8 bu	34.7 bu
Breakeven Yield for Total Costs	55.9 bu	120.7 bu	27.9 bu	28.5 bu	72.1 bu

GUIDELINES (DOLLARS PER ACRE)

Corn	Sunflowers	Peas	Lentils	Buckwheat	Navy Beans	My Farm
$	$	$	$	$	$	
17.25	12.00	22.50	15.00	8.00	20.25	_____
32.10	23.25	14.30	14.30	21.95	19.70	_____
22.00	10.00	12.00	16.00	10.00	28.50	_____
10.00	9.50	9.50	9.00	9.00	10.00	_____
9.00	8.00	7.50	7.50	7.00	8.50	_____
8.90	6.14	8.65	11.65	12.34	12.60	_____
6.50	6.50	6.50	6.00	6.00	6.50	_____
8.50	6.50	8.50	6.50	6.50	8.50	_____
20.00	6.00	--	--	--	--	_____
8.06	5.27	5.37	5.16	4.85	6.87	_____
142.31	93.16	94.82	91.11	85.64	121.42	_____
42.08	28.64	42.08	28.64	28.64	42.08	_____
13.00	11.00	10.50	10.50	10.00	12.00	_____
10.40	8.80	8.40	8.40	8.00	9.60	_____
5.70	2.85	2.85	2.85	2.85	2.85	_____
16.00	16.00	16.00	16.00	16.00	16.00	_____
87.18	67.29	79.83	66.39	65.49	82.53	_____
229.49	160.45	174.65	157.50	151.13	203.95	_____

PER ACRE YIELDS

$2.85/bu. $112.20/t	$0.095/lb. $209.44/t	$5.00/bu. $183.72/t	$0.14/lb $308.65/t	$4.75/bu $218.17/t	$0.20/lb $440.93/t	_____
49.9 bu.	981 lb.	19.0 bu.	651 lb.	18.0 bu.	607 lb.	_____
80.5 bu.	1689 lb.	34.9 bu.	1125 lb.	31.8 bu.	1020 lb.	_____

CROP BUDGET ASSUMPTIONS

1) Seed & Treatment

Per Hectare

Crop	Rate/ha	Price/Unit	Cost/ha
Wheat	84 kg	$0.16/kg	$13.44
Barley	81 kg	$0.13/kg	$10.53
* Canola	7 kg	$0.88/kg	$ 6.16
Flaxseed	45 kg	$0.31/kg	$13.95
Rye	79 kg	$0.10/kg	$ 7.90
corn	56,865 plants	$60.00/80,000	$42.65
Sunflowers	7 kg	$4.41/kg	$30.87
Peas	168 kg	$0.33/kg	$55.44
lentils	67 kg	$0.55/kg	$36.85
Buckwheat	54 kg	$0.37/kg	$19.98
Navy Beans	50 kg	$0.99/kg	$49.50

* Canola Seed treatment cost is in addition to the cost of seed: $7.94/hectare.

Per Acre

Crop	Rate/acre	Price/Unit	Cost/ac
Wheat	1.25 bu.	$4.25/bu.	$ 5.31
Barley	1.5 bu.	$2.75/bu.	$ 4.13
* Canola	6 lbs.	$0.40/lb.	$ 2.40
Flaxseed	40 lbs.	$0.14/lb.	$ 5.60
Rye	1.25 bu.	$2.50/bu.	$ 3.13
corn	23,000 plants	$60.00/80,000	$17.25
Sunflowers	6 lbs.	$2.00/lb.	$12.00
Peas	2.5 bu.	$9.00/bu.	$22.50
lentils	60 lbs.	$0.25/lb.	$15.00
Buckwheat	1 bu.	$8.00/bu.	$ 8.00
Navy Beans	45 lbs.	$0.45/lb.	$20.25

* Canola seed treatment cost is in addition to the cost of seed: $3.60/acre.

2) Fertilizer Price/kg	Nitrogen 40¢	$	Phosphorous 55¢	$	Potash 24¢	$	Sulfur 33¢	$	Cost/ ha($)
	Per Hectare								
Crop:	kg	Cost	kg	Cost	kg	Cost	kg	Cost	Cost
Wheat	78	31.20	37	20.35	--	--	--	--	51.55
Barley	78	31.20	37	20.35	--	--	--	--	51.55
Canola	90	36.00	22	12.10	--	--	17	5.61	53.71
Flaxseed	67	26.80	--	--	--	--	--	--	26.80
Rye	78	31.20	22	12.10	--	--	--	--	43.30
Corn	101	40.40	45	24.75	45	10.80	11	3.63	79.58
Sunflowers	67	26.80	39	21.45	22	5.28	11	3.63	57.16
Peas	--	--	39	21.45	34	8.16	17	5.61	35.22
Lentils	--	--	39	21.45	34	8.16	17	5.61	35.22
Buckwheat	62	24.80	39	21.45	34	8.16	--	--	54.41
Navy Beans	34	13.60	39	21.45	34	8.16	17	5.61	48.82

2) Fertilizer Price/lb	Nitrogen 18¢	$	Phosphorous 25¢	$	Potash 11¢	$	Sulfur 15¢	$	Cost/ acre($)
	Per Acre								
Crop:	lbs.	Cost	lbs.	Cost	lbs.	Cost	lbs.	Cost	Cost
Wheat	70	12.60	33	8.25	--	--	--	--	20.85
Barley	70	12.60	33	8.25	--	--	--	--	20.85
Canola	80	14.40	20	5.00	--	--	15	2.25	21.65
Flaxseed	60	10.80	--	--	--	--	--	--	10.80
Rye	70	12.60	20	5.00	--	--	--	--	17.60
Corn	90	16.20	40	10.00	40	4.40	10	1.50	32.10
Sunflowers	60	10.80	35	8.75	20	2.20	10	1.50	23.25
Peas	--	--	35	8.75	30	3.30	15	2.25	14.30
Lentils	--	--	35	8.75	30	3.30	15	2.25	14.30
Buckwheat	55	9.90	35	8.75	30	3.30	--	--	21.95
Navy Beans	30	5.40	35	8.75	30	3.30	15	2.25	19.70

* FERTILIZER RATES ARE BASED ON RECOMMENDATIONS FROM UNIVERSITY OF MANITOBA SOIL TESTING LAB, EXCEPT FOR THE NITROGEN RATE ON NAVY BEANS.

3) Chemicals:

PER HECTARE

CROP	PRE-EMERGENCE HERBICIDES $/Ha	POST-EMERGENCE BROADLEAF HERBICIDES $/Ha	WILD OATS MILLET HERBICIDES $/Ha	INSECTICIDES FUNGICIDES $/Ha	TOTAL COST/Ha $
Wheat	--	11.12	32.12	--	43.24
Barley(1)	--	6.18	32.12	--	38.30
Canola(1)	--	--	24.71	--	24.71
Flaxseed	--	11.12	24.71	--	35.83
Rye	--	6.18	--	--	6.18
Corn(2)	--	8.65	45.71	--	54.36
Sunflowers	--	--	24.71	--	24.71
Peas	--	4.94	24.71	--	29.65
Lentils	--	14.83	24.71	--	39.54
Buckwheat	--	--	24.71	--	24.71
Navy Beans(3)	--	45.71	24.71	--	70.42

(1) Fungicide Treatment $54.34 Not In The Budget.
(2) Corn Borer Treatment $24.25 Not In The Budget.
(3) Fungicide Treatment $64.25 Not In The Budget.

PER ACRE

CROP	PRE-EMERGENCE HERBICIDES $/Ac	POST-EMERGENCE BROADLEAF HERBICIDES $/Ac	WILD OATS MILLET HERBICIDES $/Ac	INSECTICIDES FUNGICIDES $/Ac	TOTAL COST/AC $
Wheat	--	4.50	13.00	--	17.50
Barley(1)	--	2.50	13.00	--	15.50
Canola(1)	--	--	10.00	--	10.00
Flaxseed	--	4.50	10.00	--	14.50
Rye	--	2.50	--	--	2.50
Corn(2)	--	3.50	18.50	--	22.00
Sunflowers	--	--	10.00	--	10.00
Peas	--	2.00	10.00	--	12.00
Lentils	--	6.00	10.00	--	16.00
Buckwheat	--	--	10.00	--	10.00
Navy Beans(3)	--	18.50	10.00	--	28.50

(1) Fungicide Treatment $22.00 Not In The Budget.
(2) Corn Borer Treatment $11.00 Not In The Budget.
(3) Fungicide Treatment $26.00 Not In The Budget.

4) Fuel Costs:

Includes fuel used for field work, trucking inputs in and product out, and travel for farm business purposes.

5) Machinery & Operating Costs:

Includes costs for maintenance, repairs, licences and insurance.

6) Crop Insurance: (1988 rates)

Risk Area #6 at the average coverage dollar rate plus hail spot loss and part II insurance at $100/acre coverage for wheat, barley, canola, flax and rye.

Risk Area #11 at the high coverage dollar rate on a "B" soil zone plus hail spot loss and part II insurance, at $100/acre coverage for sunflowers, peas, lentils, buckwheat, beans and Corn Area A.

7) Other Costs:

Includes overhead expenses - hydro, telephone, accounting, building insurance, etc.

8) Land Taxes

The average for the province was based on land tax assessment and mill rates of a sample of municipalities growing crops. Budget assumes $16.06/ha ($6.50/acre) except for corn, peas and navy beans which are normally grown on higher productive land where land taxes are estimated at $21.00/ha ($8.50/acre).

9) Drying Costs:

Budget allocates costs only for corn and sunflowers. However, drying costs may be incurred in some years for other crops.

10) Interest On Operating

Interest charges on operating costs are calculated at 12% for six months.

11) Land Investment Cost:

Land values are based on the three-year average land sale values in Manitoba; except for corn, peas and navy beans where the average land sale values were those reported in crop District #8. Assumed 8% return on land investment.

12) Depreciation:

Assumed 10% depreciation, no salvage value.

13) Investment Cost:

8% opportunity cost on the machinery investment per hectare or acre by crop.

PER HECTARE

Crop	Land Investment Per Ha($)	Land Investment Cost($)	Machinery Investment Per Ha($)	Machinery Depreciation Cost($)	Machinery Investment Cost($)
Wheat	885.00	70.77	247.10	24.71	19.77
Barley	885.00	70.77	247.10	24.71	19.77
Canola	885.00	70.77	247.10	24.71	19.77
Flaxseed	885.00	70.77	247.10	24.71	19.77
Rye	885.00	70.77	247.10	24.71	19.77
Corn	1,300.00	103.98	321.23	32.12	25.70
Sunflowers	885.00	70.77	271.81	27.18	21.75
Peas	1,300.00	103.98	259.46	25.95	20.76
Lentils	885.00	70.77	259.46	25.95	20.76
Buckwheat	885.00	70.77	247.10	24.71	19.77
Navy Beans	1,300.00	103.98	296.52	29.65	23.72

PER ACRE

Crop	Land Investment Per Acre($)	Land Investment Cost($)	Machinery Investment Per Acre($)	Machinery Depreciation Cost($)	Machinery Investment Cost($)
Wheat	358.00	28.64	100.00	10.00	8.00
Barley	358.00	28.64	100.00	10.00	8.00
Canola	358.00	28.64	100.00	10.00	8.00
Flaxseed	358.00	28.64	100.00	10.00	8.00
Rye	358.00	28.64	100.00	10.00	8.00
Corn	526.00	42.08	130.00	13.00	10.40
Sunflowers	358.00	28.64	110.00	11.00	8.80
Peas	526.00	42.08	105.00	10.50	8.40
Lentils	358.00	28.64	105.00	10.50	8.40
Buckwheat	358.00	28.64	100.00	10.00	8.00
Navy Beans	526.00	42.08	120.00	12.00	9.60

13) Storage:

Assumed a 5% depreciation cost and 8% investment cost.

Farm storage requirements were assumed to be 30 bushels/acre costing $1/bushel for 75% of the storage and $1.25/bushel for 25% aerated storage.

Storage requirements for corn were calculated at 60 bushels/acre.

Example - Wheat

Depreciation $\frac{\$30 - \$3}{20 \text{ years}} = \$1.35$

Investment $\frac{\$30 + \$3}{2} \times 8\% = + \frac{\$1.32}{\$2.67} \times 75\% = \$2.00$

Aeration Bins (1/4)

Depreciation $\frac{\$37.50 - \$3.75}{20 \text{ years}} = \$1.69$

Investment $\frac{\$37.50 + \$3.75}{2} \times 8\% = \frac{\$1.65}{\$3.34} \times 25\% = \frac{\$0.85}{\$2.85}$

14) Labor & Management

It depends upon the individual farm size, type of enterprises, and labor requirements.

Assumed cost - $39.54/hectare ($16/acre).

This calculation could be equal to paid wages plus personal and family withdrawals from the farm business.

Prepared By: Keith Kyle
Farm Management Specialist

FOR FURTHER INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.